

## SEQUENCE LISTING

<110> Morin, Gregg B.  
Lichtsteiner, Serge  
Vasserot, Alain  
Adams, Robert R.  
Geron Corporation

<120> Telomerase Reverse Transcriptase Transcriptional  
Regulatory Sequences and Methods of Using

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<140> 09/244,438

<141> 1999-02-04

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<170> PatentIn Ver. 2.1

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<223> Human TERT promoter

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&lt;210&gt; 2

&lt;211&gt; 7498

&lt;212&gt; DNA

&lt;213&gt; Mus sp.

&lt;220&gt;

&lt;223&gt; Mouse TERT promoter

&lt;400&gt; 2

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| ccagagaact  | ctgagggaaa | ataaaacaca | actccaggtc  | atcacgggac | tcataaaact | 180 |
| gctgaggtgc  | agccacagag | aaaaatctta | aaatagccta  | gaacgatgca | tgacacataa | 240 |
| agcacagaga  | acagcaagct | gagtcgtctc | tgtaggaaca  | acttgagaag | acctaaacca | 300 |
| ctgcaatgag  | tgcatctctg | taacttagaa | tttgctaccc  | agttcagatc | caaaaagggt | 360 |
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| atcgaatatg  | actaagctca  | tgacgtacaa  | atcaaaggta  | caactgggata | gtttaaaaga  | 840  |
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| catcttggtt  | ccgcacgtg  | ggaggcccat  | cccgcccttg | agcacaatga | ccgcgctcc   | 4500 |
| tcgttgcccc  | gcggtgcgt  | ctctgctgcg  | cagccgatac | cgggaggtgt | ggccgctggc  | 4560 |
| aaccttttgt  | cggcgccctg | ggcccgagg   | caggcgctt  | gtgcaaccg  | gggacccgaa  | 4620 |
| gatctaccgc  | actttgggtg | cccaatgcct  | agtgtgcatg | cactggggct | cacagcctcc  | 4680 |
| acctgccgac  | ctttccttcc | accaggtggg  | cctccaggcg | ggatcccat  | gggtcagggg  | 4740 |
| cggaaagccg  | ggaggacgtg | ggatagtgcg  | tctagtcat  | gtgtcaagac | cctcttctcc  | 4800 |
| ttaccagggtg | tcatccctga | aagagctgg   | ggccagggtt | gtgcagagac | tctgcgagcg  | 4860 |
| caacgagaga  | aacgtgctgg | cttttggtt   | tgagctgctt | aacgaggcca | gaggcgggcc  | 4920 |
| tcccatggcc  | ttcactagta | gcgtgcgtag  | ctacttgccc | aacactgtta | ttgagaccct  | 4980 |
| gcgtgtcagt  | ggtgcatgga | tgctactgtt  | gagccgagtg | ggcgacgacc | tgctggtcta  | 5040 |
| cctgctggca  | cactgtgctc | tttatcttct  | ggtgcccccc | agctgtgcct | accaggtgtg  | 5100 |
| tgggtctccc  | ctgtacccaa | tttgtgccac  | cacggatata | tggccctctg | tgctcgctag  | 5160 |
| ttacaggccc  | acccgacccg | tgggcaggaa  | tttactaac  | cttaggttct | tacaacagat  | 5220 |
| caagagcagt  | agtcgccagg | aagcaccgaa  | accctggcc  | ttgccatctc | gaggtacaaa  | 5280 |
| gaggcatctg  | agtctcacc  | gtacaagtgt  | gccttcagct | aagaaggcca | gatgctatcc  | 5340 |
| tgtcccgaga  | gtggaggagg | gacccacacg  | gcaggtgcta | ccaaccccat | caggcaaatc  | 5400 |
| atgggtgcc   | agtcctgctc | ggtccccga   | ggtgcctact | gcagagaaa  | atttgtcttc  | 5460 |
| taaaggaaa   | gtgtctgacc | tgagtctctc  | tgggtcggtg | tgctgtaaac | acaagcccag  | 5520 |
| ctccacatct  | ctgctgtcac | caccccgcca  | aatgccttt  | cagctcaggc | catttattga  | 5580 |
| gaccagacat  | ttcctttact | ccaggggaga  | tggccaagag | cgtctaaacc | cctcattcct  | 5640 |
| actcagcaac  | ctccagccta | acttgactgg  | ggccaggaga | ctggtggaga | tcactcttct  | 5700 |
| gggtcgaagg  | ctaggacat  | caggaccact  | ctgcaggaca | caccgtctat | cgcgtcgata  | 5760 |
| ctggcagatg  | cggccctgt  | tccaacagct  | gctggtgaac | catgcagagt | gccaatatgt  | 5820 |
| cagactcctc  | aggtcacatt | gcaggtttcg  | aacagcaaac | caacaggtga | cagatgcctt  | 5880 |
| gaacaccagc  | ccaccgcacc | tcattggattt | gctccgcctg | cacagcagtc | cctggcaggt  | 5940 |
| atatggtttt  | cttcgggctt | gtctctgcaa  | ggtggtgtct | gctagtctct | ggggtaccag  | 6000 |
| gcacaatgag  | cgcgcgttct | ttaagaactt  | aaagaagtcc | atctcggttg | ggaaatacgg  | 6060 |
| caagctatca  | ctgcaggaac | tgatgtggaa  | gatgaaagta | gaggattgcc | actggctccg  | 6120 |
| cagcagcccc  | ggtgagcatg | gctggtctcc  | agctgaatgc | attagggggc | cagaaaaggc  | 6180 |
| agacaatggg  | tggcagtaac | ccaggtcccc  | agtggtgtgg | tggctttatg | cagtcctggg  | 6240 |
| ttggatgagt  | ttcatcttat | ggtctctgac  | tccaagctcc | ctccagctcg | ccttgacaaa  | 6300 |
| actaagattc  | ttgtccaagc | cctgggcagg  | ttctcagggc | tggggacatt | gtggtgaaca  | 6360 |
| gataagcaga  | cggggagcat | ggtggatagg  | agttctggca | cagtgcacca | gagagagtct  | 6420 |
| ggaagcgcta  | gtgagagcta | atgtaagggc  | cgtggttcg  | ccaaagaatg | ataaccccgg  | 6480 |
| actcaaatag  | tatgccaaa  | caaggagcat  | ttcattctgc | agaaatcaag | catgcagggtg | 6540 |
| gggggggggg  | ggtgctctca | ttccaagatg  | gagagacaac | caagtataga | ttttaagggg  | 6600 |
| atcggggggc  | tttatcttac | tccatctcta  | ggggcattcc | attactgggg | catgggggtg  | 6660 |
| gaggttgga   | actgttaatg | gggaggtctg  | gaaactgct  | gccccattgt | ccttgcttca  | 6720 |
| ggctaggtag  | ctgagtagct | tctaattggca | ggatagtctt | tgactagctg | tctaaagtct  | 6780 |
| ggggtgtttg  | tttttttgtt | ttttctagta  | acttacttgc | ctgaacttgc | tcagttttta  | 6840 |
| ggcctggtct  | cctggactgc | caatttgaag  | cctattaagg | agtcagcctg | tctcactact  | 6900 |
| ccaggttatc  | tataatcccc | ctgtagaacg  | gtacctcact | gataacaatg | acagaccaac  | 6960 |
| ataggaaccc  | actatccttg | tggtgcatga  | gtttcaaagg | ttcttctggt | cctcccagtg  | 7020 |
| tgcagatcca  | tgcttaagct | atggtcctcc  | cagtgtgcag | atccgtgctt | aagctatggt  | 7080 |
| cttgacgtg   | ctcgcactac | aaagggtagg  | gtgaacgaag | gaaagataaa | tgaaaaaaa   | 7140 |
| aaaactgttt  | cctacagtga | agatcgctgc  | cccatcttag | ctatgagaag | ggactgggga  | 7200 |
| gtggagcctg  | gtgcataaaa | gaggattgtg  | ttacttggaa | ggctgcagag | cctggactcc  | 7260 |
| tgtgccctcc  | ttgcctgggt | ttctgggttt  | aatgttgagg | ttggccctct | gtagtcacta  | 7320 |
| cctgacccct  | tccttttcag | ccaaccctcc  | ggttacaccc | tgtgcatgta | tggaaagggc  | 7380 |
| caaacgccct  | atcctgctct | cccttcccca  | aaattcttag | gatattaaca | acttatgggg  | 7440 |
| aaaagatggt  | agagctatgt | ttaccaccca  | tgtacttggg | aagctccgaa | gtaagctt    | 7498 |

<210> 3  
 <211> 144  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> NCO1 fragment containing hTERT upstream sequences  
 and the first intron of hTERT from lambdaGPhi5  
 into the NCO1 site of a pBBS167 (variant of pUC  
 cloning vector with MCS)

<400> 3  
 atgacctga ttacgaattc gagctcggtg cccggggatc ctctagagtc gacctgcagg 60  
 catgcccatt gcaggcctcg cgcgcgagat ctcgggccca atcgatgccg cggcgatatc 120  
 gctcgaggaa gcttggcact ggcc 144

<210> 4  
 <211> 37  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: RA94

<400> 4  
 cccggccacc cccgcgaatt cgcgcgctcc ccgctgc 37

<210> 5  
 <211> 65  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: RA91

<400> 5  
 ttgtactgag agtgcacccat atgcggtgtg catgctacgt aagagggtcc aactttcacc 60  
 ataata 65

<210> 6  
 <211> 16  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: RA96

<400> 6  
 aattgcgaag cttacg 16



<210> 7  
 <211> 16  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: RA97

<400> 7  
 aattcgtaag cttagc 16

<210> 8  
 <211> 60  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: oligo RA101

<400> 8  
 taggtaccga gctcttacgc gtgctagccc cacgtggcgg agggactggg gacccgggca 60

<210> 9  
 <211> 58  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: oligo RA100

<400> 9  
 taggtaccga gctcttacgc gtgctagccc ctcgctggcg tccctgcacc ctgggagc 58

<210> 10  
 <211> 33  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: RA107

<400> 10  
 cgtcctgctg cgcactcagg aagccctggc ccc 33

<210> 11  
 <211> 6  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: 'B' class  
 E-Box just proximal to the hTERT initiating Met in  
 pGRN262

<400> 11  
 cacgtg 6

<210> 12  
 <211> 6  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: changed 'B'  
 class E-Box just proximal to the hTERT initiating  
 Met in pGRN262

<400> 12  
 cactca

6

<210> 13  
 <211> 25  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: COD1941

<400> 13  
 gatgaatgct catgattccg tatgg

25

<210> 14  
 <211> 57  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: COD2866

<400> 14  
 cagcatcttt tactttcacc agcgtttctg ggtgcgcaaa aacaggaagg caaaatg

57

<210> 15  
 <211> 58  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: RA104

<400> 15  
 taggtaccga gctcttacgc gtgctagccc ctcccagccc ctcccattcc ttccgcg

58

<210> 16  
 <211> 33  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: RA122

<400> 16  
 gaccgcgctt ccactcagc ggagggactg ggg

33

<210> 17  
 <211> 298  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <223> Human TERT promoter

<400> 17  
 caggccgggc tcccagtgga ttgcggggca cagacgcca ggaccgctg tcccacgtgg 60  
 cggagggaact ggggacccgg gcaccggtcc tgcccccttca ccttccagct ccgcctcctc 120  
 cgcgcggacc ccgccccgtc ccgaccctc ccgggtcccc ggcccagccc cctccggggc 180  
 ctcccagccc ctccccttcc ttcccgcggc ccgcccctct cctcgcggcg cgagtttcag 240  
 gcagcgctgc gtctgtctgc gcacgtggga agccctggcc ccggccaccc ccgcgatg 298

<210> 18  
 <211> 262  
 <212> DNA  
 <213> Mus sp.

<220>  
 <223> Mouse TERT promoter

<400> 18  
 cagcaaccac tgaacttggc cggggaacac acctggtcct catgcaccag cattgtgacc 60  
 atcaacggaa aagtactatt gctgcgaccc cgcccccttcc gctacaacgc ttggtccgcc 120  
 tgaatccgc cccttcctcc gttcccagcc tcatcttttt cgtcgtggac tctcagtggc 180  
 ctgggtcctg gctgttttct aagcacaccc ttgcatcttg gttcccgcac gtgggaggcc 240  
 catcccggcc ttgagcaca tg 262

<210> 19  
 <211> 77  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <223> Human TERT promoter

<400> 19  
 ctgcgggcgc gagtttcagg cagcgctgcg tcctgctgcg cacgtgggaa gccctggccc 60  
 cggccacccc cgcgatg 77

<210> 20  
 <211> 89  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: E-box reporter  
 construct

<400> 20  
 ctgcgggcgc gagtttcagg cagcgctgcg tcctgctgcg cacgtgggaa gccctggccc 60  
 cggccacccc cgcgaattcg cccaccatg 89

<210> 21  
 <211> 56  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: E-box reporter  
 construct (with portion deleted)

<400> 21  
 ctgcgcggcgc gagtttcagg cagcgctgcg tcctgctgcc gaattcgccc accatg 56

<210> 22  
 <211> 497  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <223> Human TERT promoter

<400> 22  
 actccagcat aatctttctgc ttccatttct tctcttccct cttttaaaat tgtgttttct 60  
 atgttggtct ctctgcagag aaccagtgtg agctacaact taacttttgt tggaacaaat 120  
 ttccaaacc gcccttttgc cctagtggca gagacaattc acaaacacag ccctttaaaa 180  
 aggttaggg atcactaagg ggatttctag aagagcgacc cgtaatccta agtatttaca 240  
 agacgaggct aacctccagc gagcgtgaca gcccagggag ggtgcgaggc ctgttcaaat 300  
 gctagctcca taaataaagc aatttcctcc ggcagtttct gaaagtagga aagggttacct 360  
 ttaagggttc gtttggttagc atttcagtgt ttgccgacct cagctacagc atccctgcaa 420  
 ggctcggga gaccagaag tttctcgccc cttagatcca aacttgagca acccgagtc 480  
 tggattcctg ggaagtc 497

<210> 23  
 <211> 425  
 <212> DNA  
 <213> Mus sp.

<220>  
 <223> Mouse TERT promoter

<400> 23  
 caagtgtgca ccaccatgcc ccgcgatatt cttatttttg agactgtttt ctatgctggt 60  
 ttctttgggg aactacacta aggtagcttc attgttgga taaatttctc agttcaggcc 120  
 catatctcct aagtagcaga actaagcaaa tctcaaaca acccctcaa aagactgatg 180  
 tccactaaac ggacttctaa aatagctcct gtaatcctga gcatttaca ggcggcagac 240  
 ctccataaag ggagtaaata tgaaaacgcg cctgttcaaa tgctaggctc gtggatagaa 300  
 gcaatttcct cagaaagctg aaggcaccac aggttatatt tgtagcatt tcagtgtttg 360  
 ccaaactcag ctacagtaga gatcacagat tccctatttc ccagagattc aaaattcagc 420  
 agccc 425